



UNITED STATES PATENT AND TRADEMARK OFFICE

11.0

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/726,018	12/02/2003	Kent Crouse	N8226	2651
23456	7590	10/04/2007		
WADDEY & PATTERSON, P.C. 1600 DIVISION STREET, SUITE 500 NASHVILLE, TN 37203			EXAMINER DUONG, DIEU HIEN	
			ART UNIT 2821	PAPER NUMBER
			MAIL DATE 10/04/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/726,018	Applicant(s) CROUSE ET AL.	
	Examiner Dieu Hien T. Duong	Art Unit 2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) 16-43 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is a response to Applicants' amendment filed on July 23, 2007. In virtue of this amendment, claims 16-43 are withdrawn; thus, claims 1-15 are currently presented in the instant application.

Claim Objections

2. Claim 1 is objected to because of the following informalities:

Claim 1, line 1, - -the dimming ballast- - should be added in front of comprising;

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1:

The phrase "A software controlled electronic dimming ballast" in line 1 is unclear. It is not clear how a software is controlled by an electronic dimming ballast.

The phrase "the dimming control circuit further including lamp dimming level control software" in lines 12-13 is unclear. It is not clear how a dimming control circuit (hardware) includes lamp dimming level control software (software).

Claim 1 is not limited to tangible embodiments since claim 1 recited "A software" and "lamp dimming level control software" are just limited to functional descriptive materials consists of software per se, instead of being defined as including tangible embodiments (i.e., a computer readable storage medium such as memory device, storage medium, etc.,). As such, the claim is not limited to statutory subject matter and is therefore non-statutory.

Claim 2, line 8 is rejected for similar subject matter to claim 1, lines 12-13.

Claim 3, lines 2 and 5 is rejected for similar subject matter to claim 2.

Claim 4, lines 2 and 4 is rejected for similar subject matter to claim 2.

Claim 5, line 6 is rejected for similar subject matter to claim 2.

Claim 6, lines 3 and 6 is rejected for similar subject matter to claim 2.

Claim 7, line 7 is rejected for similar subject matter to claim 2.

Claim 8, line 4 is rejected for similar subject matter to claim 2.

Claim 9, line 4 is rejected for similar subject matter to claim 2.

Claim 10, line 5 is rejected for similar subject matter to claim 2.

Claim 13, line 5 is rejected for similar subject matter to claim 2.

Regarding claim 10, the phrase "an input voltage feedback input for receiving an input voltage feedback signal representative of input voltage being supplied to the dimming ballast" in lines 3 and 4 is not clear how an input (an input voltage feedback input) receives another input signal (an input voltage feedback signal).

Regarding claim 10, the phrase "input voltage feedback signal indicates that the input voltage has fallen below a minimum input voltage level" in lines 6-7 is not clear. It

Art Unit: 2821

is not clear how the "input voltage feedback signal" indicates the "input voltage" and the "input voltage" is the input voltage of the "input voltage feedback input" or the input voltage of the "input voltage feedback signal".

Claims 2-15 are rejected since they are dependent on claim 1.

Clarification is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Vakil et al. (US 7,042,170 B2), hereinafter "Vakil".

Regarding claim 1, as best understood, Vakil discloses, in Figures 12-14, col. 3, lines 53-63, col. 4, lines 66-67 and col. 5, lines 1-26, a software controlled electronic dimming ballast, comprising an inverter circuit (46) for supplying current to a lamp (12); and a dimming control circuit (42) for controlling the current supplied by the inverter circuit (46) to the lamp (12) and thereby causing the lamp to have a desired lamp dimming level, the dimming control circuit (42) including a dimming control signal input (64) for receiving a dimming control signal representative of the desired lamp dimming level, a lamp dimming level feedback signal input (58) for receiving a lamp dimming

Art Unit: 2821

level feedback signal representative of an existing lamp dimming level, and an inverter control signal output (44) for outputting an inverter control signal having a pulse width and frequency that causes the inverter circuit to supply the lamp with sufficient current to cause the lamp to have the desired lamp dimming level; the dimming control circuit (42) further including lamp dimming level control software for causing the dimming control circuit to incrementally modulate the pulse width and frequency of the inverter control signal based on the dimming control signal and the lamp dimming level feedback signal.

Regarding claim 2, as applied to claim 1, Vakil discloses, in Figures 12-14 and attachment, wherein the dimming control circuit (42) converts the dimming control signal into desired dimming level digital data representative of the desired lamp dimming level; the dimming control circuit converts the lamp dimming level feedback signal into existing lamp dimming level digital data representative of the existing lamp dimming level; and the lamp dimming level control software causes the dimming control circuit to generate the inverter control signal based on the desired dimming level digital data and the existing lamp dimming level digital data (see attachment pages 2-3 of 5 for A/D converter of the dimming control circuit 42).

Regarding claim 3, as applied to claim 2, Vakil discloses, in Figures 12-14 and col. 3, lines 53-63, the lamp dimming level control software causes the dimming control circuit (42) to generate error digital data based on the desired dimming level digital data and the existing lamp dimming level digital data; and the lamp dimming level control

software causes the dimming control circuit to generate the inverter control signal based on the error digital data.

Regarding claim 4, as applied to claim 3, Vakil discloses, in Figures 12-14 and col. 3, lines 53-63, wherein the lamp dimming level control software causes the dimming control circuit (42) to use the error digital data to identify inverter control signal digital data; and the lamp dimming level control software causes the dimming control circuit (42) to generate the inverter control signal based on the inverter control signal digital data.

Regarding claim 5, as applied to claim 1, Vakil discloses, in Figures 12-14, col. 3, lines 53-63, wherein the dimming control signal (64) is an analog dimming control signal; the dimming control circuit (42) converts the analog dimming control signal into desired lamp dimming level digital data representative of the desired lamp dimming level; and the lamp dimming level control software causes the dimming control circuit to generate the inverter control signal based on the desired lamp dimming level digital data (see attachment pages 2-3 of 5 for A/D converter of the dimming control circuit 42).

Regarding claim 6, as applied to claim 1, Vakil discloses, in Figure 18, col. 3, lines 53-63, wherein the dimming control signal is a digital dimming control signal; the lamp dimming control software causes the dimming control circuit (42) to convert the digital dimming control signal into desired lamp dimming level digital data representative of the desired lamp dimming level; and the lamp dimming level control software causes the dimming control circuit (42) to generate the inverter control signal based on the desired lamp dimming level digital data.

Regarding claim 7, as applied to claim 1, Vakil discloses, in Figures 12-14, wherein the lamp dimming level feedback signal (58) is an analog lamp dimming level feed back signal; the dimming control circuit (42) converts the analog lamp dimming level feedback signal into existing lamp dimming level digital data representative of the existing lamp dimming level; and the lamp dimming level control software causes the dimming control circuit (42) to generate the inverter control signal based on the existing lamp dimming level digital data.

Regarding claim 8, as applied to claim 1, Vakil discloses, in Figures 12-14, wherein the inverter control signal (44) is a pulse width modulated inverter control signal (56) ; and the lamp dimming level control software causes the dimming control circuit to generate the pulse width modulated inverter control signal.

Regarding claim 9, as applied to claim 1, Vakil discloses, in Figures 12-14, wherein the inverter control signal (44) is a frequency modulated inverter control signal (62); and the lamp dimming level control software causes the dimming control circuit (42) to generate the frequency modulated inverter control signal.

Regarding claim 10, as applied to claim 1, as best understood, Vakil discloses, in Figures 12-14, the dimming control circuit (42) further includes an input voltage feedback input for receiving an input voltage feedback signal representative if input voltage being supplied to the dimming ballast; and line voltage control software for causing the dimming control circuit to shut down the inverter circuit if the input voltage feedback signal indicates that input voltage has fallen below a minimum input voltage level.

Regarding claim 11, as applied to claim 10, Vakil discloses, in Figures 12-14, wherein the dimming control circuit (42) further includes an input voltage feedback signal conditioning circuit (60) for generating the input voltage feedback signal.

Regarding claim 12, as applied to claim 11, Vakil discloses, in Figures 12-14, the input voltage feedback signal conditioning circuit (60) includes an input voltage feedback signal resistor connected in parallel with an input voltage feedback signal capacitor.

Regarding claim 13, as applied to claim 1, Vakil discloses, in Figures 12-14, wherein the dimming control circuit (42) further includes a lamp condition feedback input (68) for receiving a lamp condition feedback signal representative of the lamp condition; and lamp condition control software for causing the dimming control circuit to shutdown the inverter circuit if the lamp condition feedback signal indicates that the lamp has reached an end of lamp life condition.

Regarding claim 14, as applied to claim 13, Vakil discloses, in Figures 12-14, the dimming control circuit (42) further includes a lamp condition feedback signal conditioning circuit for generating the lamp condition feedback signal.

Regarding claim 15, as applied to claim 14, Vakil discloses, in Figures 12-14, wherein the lamp condition feedback signal conditioning circuit includes a lamp condition feedback signal resistor connected in parallel with a lamp condition feedback signal capacitor.

Allowable Subject Matter

Art Unit: 2821

7. The indicated allowability of claims 2-15 is withdrawn in view of the newly discovered reference to Vakil et al. (US 7,042,170 B2).

Response to Arguments

8. Applicant's arguments, see pages 16-20, filed July 23, 2007, with respect to the rejection of claim 1 under Ribarich et al. (US 2002/0158591 A1) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn.

However, upon further consideration, a new ground of rejection is made in view of Vakil et al. (US 7,042,170 B2).

Inquiry

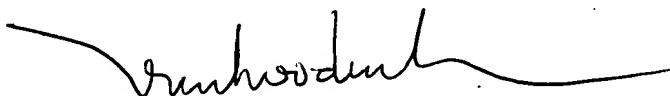
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dieu Hien T. Duong whose telephone number is 571-272-8980. The examiner can normally be reached on Monday - Friday, from 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas W. Owens can be reached on 571-272-1662. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2821

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DD
Art Unit 2821



TRINH DINH
PRIMARY EXAMINER